cont

substance with light which is generated by the polymerization device and is converted by the light wave converter.

(A copy of the marked-up version of amended claims is attached to this Amendment.)

REMARKS

Reconsideration and allowance of this application are respectfully requested in view of the above amendments and the discussion below.

Applicant's invention, as defined by independent claim 1, is addressed to a light wave converter assembly having a light guide 1 and a light wave converter 2. The light wave converter includes a substance which converts a part of incident light into light of a longer wavelength in such a way that the converter light is guided together with uncovered light to an exit port so that together, the converted light and the unconverted light yield a light with a wavelength spectrum of the color white.

Claims 12-17, 24, 26 and 29-31 have been rejected under 35 U.S.C. 112, second paragraph, with respect to the indication given at the bottom of page 2 and at page 3 of the Office Action. In response to this rejection, Applicant has amended each of claims 12-17, 24, 26 and 29-31 to address each of the requirements in order to overcome the rejection under 35 U.S.C. 112, second paragraph.

Claims 1-30 and 32-34 have been rejected under 35 U.S.C. 103 as unpatentable over the reference to Brown, U.S. Patent No. 4,884,860 as detailed on pages 4 and 5 of the Office Action. Lastly, claim 31 is rejected under 35

U.S.C. 103 as unpatentable over Brown in view of Galvanauskas et al., U.S. Patent No. 6,208,458 as indicated at the bottom of page 5 and the top of page 6 of the Office Action.

Applicant respectfully traverses this rejection on that grounds that each of independent claims 1, 31 and 32 provide a system or a process which is not shown or disclosed or made obvious by the references or any obvious combination of the references.

The reference to Brown '890 provides a method for concentrating radiant energy and for multiplying luminescent output intensity of a phosphor. A coaxial lens has a thin cylindrical phosphorescent layer with optical wave guides on each side of the layer. As a result, light falling on the phosphorescent layer stores radiant energy and emits radiation of a different wavelength. The linear coaxial lens use refractive and fluorescence to intensify photo phosphorescent in a fiber market shown as 14.

According to the statement of the rejection, the reference to Brown inherently has residual incident light that remains unconverted so that both unconverted and converted light are guided to the exit port despite the fact that the output spectrum is not stated to be of the color white.

Applicant submits that the claimed invention requires a part of the incident light to be converted by the light wave converter into light of a longer wavelength and that this converted light along with the part that was not converted (intentionally not converted) goes to the exit where the combination of the converted and unconverted light provides a wavelength spectrum of the color white. This is color mixing whose intention is to provide a white color. It is not

conceivable that Brown intends to combine converted and unconverted light and it is further inconceivable that any "unconverted" light would magically be able to be combined with the converted light to provide white light.

The claimed invention has a specific requirement for the structure and there is no obvious modification of Brown which could yield this structure. A reading of the reference to Brown clearly indicates a different purpose and therefore, a different structure. With no indication that one skilled in the art could provide the present invention based on any disclosure of Brown. There is simply no indication of an inherency with respect to the combination of the converted and unconverted light in Brown because there is no indication that there is any unconverted light. However, as indicated above, if there is any unconverted light, it is certainly not designed and it certainly doesn't provide white light.

The terminology throughout the claim is supported by the specification and, in view of the specification, the wavelengths used clearly indicate that, the term "white light" does not have a broad general of appearance of white but is designed to provide "white" light.

With respect to indications concerning dependent claims 8 and 9 concerning the incident light being generated by a "polymerization" lamp, Applicant submits that such a polymerization or curing lamp is not anticipated, disclosed or suggested by Brown as such an incident light source is particularly known by those skilled in the dental field.

The secondary reference '458 concerns a method and apparatus for converting optical pulse and in order to support the rejection of claim 32, the

rejection points to column 16, lines 46-50 and column 17, lines 19-24 for supporting a conclusion that it is obvious for a skilled person to use the lens of Brown also in the dental field. Once again, there is no teaching of combining a light wave converter using a polymerization lamp and the '458 reference uses a typical industrial laser system which might be used to replace a conventional dental drill assembly. The light produce by the lasers and used for cutting and drilling cannot be used for starting the polymerization of a curable substance or for diagnostic purposes. The fact that the word "dental" is used, does not provide any teaching to one of ordinary skill in the art to combine Brown and Galvanauskas et al. and even if such references were combined, the present invention as defined by independent claims 1, 31 and 32, as well as the dependent claims does not result.

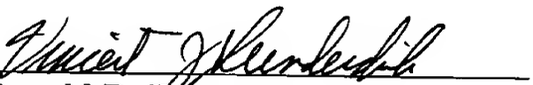
Therefore in view of the changes to the claim structure to obviate the rejections under 35 U.S.C. 112 and in view of the distinguishing features between the claimed invention and the references, which features are not shown or disclosed or made obvious by the references or their combinations, Applicant respectfully requests that this application containing claims 1-28 and 31-34 be allowed and be passed to issue.

If there are any questions regarding this amendment or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1323 (Docket #1860/49624).

Respectfully submitted,

DATE: **January 21, 2003**



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VERSION WITH MARKINGS TO SHOW CHANGES MADE

6. (Amended) Light wave converter <u>assembly</u>, as claimed in claim 2, comprising a brightness controller.

7. (Amended) Light wave converter <u>assembly</u>, as claimed in claim 3 comprising a brightness controller.

12. (Amended) Light wave converter assembly, as claimed in claim 1, wherein the converter substance is chosen from substances, which, when optically excited, can luminesce[, in particular fluoresce].

13. (Amended) Light waver converter assembly, as claimed in claim 2, wherein the converter substance is chosen from substances, which, when optically excited, can luminesce[, in particular fluoresce].

14. (Amended) Light waver converter assembly, as claimed in claim 8, wherein the converter substance is chosen from substances, which, when optically excited[, can luminesce, in particular fluoresce].

15. (Amended) Light wave converter assembly, as claimed in claim 1, wherein the converter substance is [chosen from] <u>at least one of</u> inorganic dyes, [comprising] <u>including</u> the auxiliary group elements and elements from the group of lanthanides, and[/or] organic dyes, [comprising] <u>including</u> the class of perylenes, aldazines, thioxanthenes and/or naphthalimides.

16. (Amended) Light wave converter assembly, as claimed in claim 2, wherein the converter substance is [chosen from] <u>at least one of</u> inorganic dyes, [comprising] <u>including</u> the auxiliary group elements and elements from the

group of lanthanides and[/or] organic dyes, comprising the class of perylenes, aldazines, thioxanthenes and/or naphthalimides.

17. (Amended) Light wave converter assembly, as claimed in claim 8, wherein the converter substance is [chosen from] at least one of inorganic dyes, [comprising] including the auxiliary group elements and elements from the group of lanthanides and[/or] organic dyes, [comprising] including the class of perylenes, aldazines, thioxanthenes and/or naphthalimides.

21. (Amended) Light wave converter assembly, as claimed in claim 1, wherein the diameter of the exit port ranges from 1 to 10 mm.

22. (Amended) Light wave converter assembly, as claimed in claim 2, wherein the diameter of the exit port ranges from 1 to 10 mm.

23. (Amended) Light wave converter assembly, as claimed in claim 8, wherein the diameter of the exit port ranges from 1 to 10 mm.

24. (Amended) Light wave converter assembly, as claimed in claim 1, including a coupling or a thread.

26. (Amended) Light wave converter assembly, as claimed in claim 1, wherein the converter assembly [can be] is a hot steam sterilized converter assembly [with hot steam].

31. (Amended) Process, comprising the steps: a) provision of a light wave converter assembly, comprising a light guide and a light wave converter, wherein the light wave converter exhibits a converter substance, which in use

converts a part of incident light into light of a longer wavelength, and wherein the converted light is guided together with a portion of the unconverted light to an exit port, and b) connection of the light wave converter to a polymerization device, c) at least one of illumination and[/or] transillumination of hard tooth substance with light which is generated by the polymerization device and [was] is converted by the light wave converter.